REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

I. CLAIM STATUS AND AMENDMENTS

Claims 1, 4-13 and 15-21 are pending.

Claim 7 is amended to correct a typographical error.

Claims 19-21 are newly added.

Claims 19 and 20 are independent forms of claims 6 and 7, respectively.

Support for claim 21 can be found on page 32, lines 8-10, of specification as filed.

No new matter has been added.

II. DOUBLE PATENTING REJECTION

On page 3 of the final Office Action dated April 8, 2009, claims 1, 4, 6-7 and 17 were provisionally rejected on the grounds of nonstatutory obviousness-type double patenting. It is noted that a Terminal Disclaimer was filed September 8, 2009 overcoming this rejection.

III. 35 USC § 112 REJECTIONS

On page 4 of the April 8, 2009 final Office Action, claim 17 and claims 13-16 were rejected under 35 USC § 112. It is noted that in the Advisory Action dated August 21, 2009 it is indicated that these rejections are overcome. Thus, these rejections are moot.

IV. OBVIOUSNESS REJECTIONS

On pages 5-7, claims 1, 4, 6-15 and 17 were rejected under 35 U.S.C. § 103(a) as obvious over Godowski et al. (US 5,316,921) in view of Shimizu (BBRC, 1992). Further, on page 7, claims 1, 4-15 and 17 were rejected under 35 U.S.C. § 103(a) as obvious over Godowski et al. in view of Shimizu and further in view of Miyake et al. (US 7,125,688) and Miyake et al. (US 7,129,064). Finally, on page 8, claims 1,4, and 6-17 were rejected under 35 U.S.C. § 103(a) as obvious over Godowski et al. in view of Shimizu and further in view of Patten et al. (US 6,365,377).

Applicants respectfully traverse these rejections.

The Examiner states that the cited art amply records that unglycosylated HGF would have been active.

However, Applicants respectfully disagree with the Examiner's opinion for the following reasons.

Reason 1

The Examiner does not provide evidence proving her opinion

Reason 2

In addition, although Applicants have carefully reviewed the cited references, we have found neither teaching nor suggestion that unglycosylated HGF is biologically active. The Examiner should clearly indicate the relating portions in the references.

Reason 3

Rather, there is an art reference suggesting that unglycosylated HGF is not active (reference (A) Biochim Biophys Acta 1039(1990), 269-276 (Attachment A)).

Reference (A) discloses in lines 9-13 of Abstract that plasminogen expressed in E.coli could not be activated. This means that completely unglycosylated plasminogen is not active, because proteins expressed in *E .coli* are not glycosylated. Reference (A) suggests that a glycoprotein loses activity by loss of all sugar chains.

Furthermore, the structures of HGF and plasminogen are very similar: They both have a plural klingle domains and a serine protease (or serine protease-like) domain. These are evidenced by reference (B) The FASEB Journal, 12, 1731-1738, 1998, page 1733, Fig. 1 (Attachment B) and reference (C) Biochemical and Biophysical Research Communications, 333, 316-327, 2005, page 317, Fig. 1 (Attachment C). The structures of HGF and plasminogen are illustrated in an attached sheet.

Therefore, reference (A) strongly suggests that unglycosylated HGF is not active since unglycosylated plasminogen is not active.

In sharp contrast to the suggestion of art reference (A), unglycosylated HGF of the invention has biological activity equivalent to that of glycosylated HGF. This effect is surprising and unexpected from the art.

Reason 4

Reference "Hofmann" cited in a previous office action teaches that partially deglycosylated HGF has less activity than glycosylated HGF.

Specifically, Hofmann teaches in Table III that scattering factor activity of HGF (SF) produced by tunicamycine-treated cell is 77% of that of HGF produced by non-treated control cell.

Tunicamycine inhibits only N-linked glycosylation and O-linked glycosylation is not affected (Reference (D) "Data sheet of tunicamycin" (Attachment D)). Since HGF has four N-linked sugar chains and one O-linked sugar chain (page 18, lines 2-14 of the specification), HGF produced by tunicamycine-treated cell is only partially deglycosylated.

Therefore Hofmann teaches that partially deglycosylated HGF has less activity than glycosylated HGF. This means that even partial deglycosylation can decrease HGF activity.

In contrast, completely deglycosylated HGF of the invention has biological activity equivalent to glycosylated HGF. Since partially deglycosylated HGF has lower activity than glycosylated HGF, it is surprising and unexpected that completely deglycosylated HGF of the invention has biological activity equivalent to glycosylated HGF.

As a result, the invention of claim 1 is unobvious from cited references. Since the inventions of claims 4-13 and 15-21 have all elements of the invention of claim 1, the inventions of these claims are unobvious from cited references.

Thus, for the above-noted reasons, these rejections are untenable and should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

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By /William R. Schmidt, II/

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